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Privately financed infrastructure projects: draft chapters of a legislative guide on privately financed infrastructure projects

Report of the Secretary-General

Addendum

Introduction and background information on privately financed infrastructure projects*

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* Section B of the present chapter is conceived as general background information on matters that are examined from a legislative perspective in the subsequent chapters of the *Guide*. For additional information, the reader is particularly advised to consult publications by other international organizations, such as the *Guidelines for Infrastructure Development through Build-Operate-Transfer (BOT) Projects*, prepared by the United Nations Industrial Development Organization (UNIDO Publication, Sales No. UNIDO.95.6.E), the *World Development Report 1994: Infrastructure for Development* (New York, Oxford University Press, 1994) and the *World Development Report 1996: From Plan to Market* (New York, Oxford University Press, 1996), both published by the World Bank, or *Financing Private Infrastructure* (Washington, D.C., 1996), published by the International Finance Corporation.

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A. Introduction

1. The roles of the public and the private sectors in the development of infrastructure have evolved considerably in history. Public services such as gas street lighting, power distribution, telegraphy and telephony, steam railways and electrical tramways were launched in the nineteenth century and in many countries they were provided by private companies that had obtained a licence or concession from the Government. Numerous privately funded road or canal projects were carried out at that time and there was a rapid development of international project financing, including international bond offerings to finance railways or other major infrastructure.

2. However, during most of the twentieth century the international trend was, in turn, towards public provision of infrastructure and other services. Infrastructure operators were often nationalized and competition was reduced by mergers and acquisitions. The degree of openness of the world economy also receded during this period. Infrastructure sectors remained privately operated only in a relatively small number of countries, often with little or no competition. In many countries the pre-eminence of the public sector in infrastructure service provision became enshrined in the constitution.

3. The current reverse trend towards private sector participation and competition in infrastructure sectors started in the early 1980s and has been driven by general as well as country-specific factors. Among the general factors are significant technological innovations; high indebtedness and stringent budget constraints limiting the public sector's ability to meet increasing infrastructure needs; the expansion of international and local capital markets, with a consequent improvement in access to private funding; and an increasing number of successful international experiences with private participation and competition in infrastructure. In many countries, new legislation was adopted, not only to govern such transactions, but also to modify the market structure and the rules of competition governing the sectors in which they were taking place.

4. The purpose of the present *Guide* is to assist in the establishment of a legal framework favourable to private investment in public infrastructure. The advice provided in the *Guide* aims at achieving a balance between the desire to facilitate and encourage private participation in infrastructure projects, on the one hand, and various public interest concerns of the host country, on the other. The *Guide* discusses a number of concerns of fundamental public interest, which, despite numerous differences of policy and legislative treatment, are recognized in most legal systems. Points of public concern include matters such as continuity in the provision of public services; adherence to environmental protection, health, safety and quality standards set by the host country; fairness of prices charged to the public; non-discriminatory treatment of customers or users, full disclosure of information pertaining to the operation of infrastructure facilities and the flexibility needed to meet changed conditions, including expansion of the service to meet additional demand. Fundamental concerns of the private sector, in turn, usually include issues such as stability of the legal and economic environment in the host country; transparency of laws and regulations and predictability and impartiality in their application; enforceability of property rights against violations by third parties; assurances that private property is respected by the host country and not interfered with other than for reasons of public interest and only if compensation is paid; and freedom of the parties to agree on commercial terms that ensure a reasonable return on invested capital commensurate with the risks taken by private investors. The *Guide* does not provide a single set of model

solutions to address these concerns, but it helps the reader to evaluate different approaches available and to choose the one most suitable in the national or local context.

1. Organization and scope of the Guide

5. Each chapter of the *Guide* contains a set of recommended legislative principles entitled "legislative recommendations". The legislative recommendations are intended to assist in the establishment of a legislative framework favourable to privately financed infrastructure projects. The legislative recommendations contained in the *Guide* are followed by notes offering an analytical introduction with references to financial, regulatory, legal, policy and other issues raised in the subject area. The user is advised to read the legislative recommendations together with the notes, which provide background information to enhance the understanding of the legislative recommendations.

6. The legislative recommendations deal with matters that it is important to address in legislation specifically concerned with privately financed infrastructure projects. They do not deal with other areas of law, which, as discussed in notes to the legislative recommendations, also have an impact on privately financed infrastructure projects. Moreover, the successful implementation of privately financed infrastructure projects typically requires various measures beyond the establishment of an appropriate legislative framework, such as adequate administrative structures and practices, organizational capability, technical expertise, appropriate human and financial resources and economic stability. Although some of these matters are mentioned in the notes, they are not addressed in the legislative recommendations.

7. The *Guide* is intended to be used as a reference by national authorities and legislative bodies when preparing new laws or reviewing the adequacy of existing laws and regulations. For that purpose, the *Guide* helps identify areas of law that are typically most relevant to private capital investment in public infrastructure projects and discusses the content of those laws which would be conducive to attracting private capital, national and foreign. The *Guide* is not intended to provide advice on drafting agreements for the execution of privately financed infrastructure projects. However, the *Guide* discusses some contractual issues (for instance, in chaps. IV, "Construction and operation of infrastructure" and V, "Duration, extension and termination of the project agreement") to the extent that they relate to matters that might usefully be addressed in the legislation.

8. The *Guide* pays special attention to infrastructure projects that involve an obligation, on the part of the selected investors, to undertake physical construction, repair or expansion works in exchange for the right to charge a price, either to the public or to a public authority, for the use of the infrastructure facility or for the services it generates. Although such projects are sometimes grouped with other transactions for the "privatization" of governmental functions or property, the *Guide* is not concerned with "privatization" transactions that do not relate to the development and operation of public infrastructure. In addition, the *Guide* does not address projects for the exploitation of natural resources, such as mining, oil or gas exploitation projects under some "concession", "licence" or "permission" issued by the public authorities of the host country.

2. Terminology used in the Guide

9. The following paragraphs explain the meaning and use of certain expressions that appear frequently in the *Guide*. For terms not mentioned below, such as technical terms used in financial and business management writings, the reader is advised to consult other sources of information on the subject, such as the *Guidelines for Infrastructure Development through*

Build-Operate-Transfer (BOT) Projects prepared by the United Nations Industrial Development Organization (UNIDO).[1]

(a) "Public infrastructure" and "public services"

10. As used in the *Guide*, the expression "public infrastructure" refers to physical facilities that provide services essential to the general public. Examples of public infrastructure in this sense may be found in various sectors and include various types of facility, equipment or system: power generation plants and power distribution networks (electricity sector); systems for local and long-distance telephone communications and data transmission networks (telecommunications sector); desalination plants, waste water treatment plants, water distribution facilities (water sector); facilities and equipment for waste collection and disposal (sanitation sector); and physical installations and systems used for public transportation, such as urban and inter-urban railways, underground trains, bus lines, roads, bridges, tunnels, ports, airlines and airports (transportation sector).

11. The line between "public" and "private" infrastructure must be drawn by each country as a matter of public policy. In some countries, airports are owned by the Government; in others they are privately owned but subject to regulation or to the terms of an agreement with the competent public authority. Hospital and medical facilities and prison and correctional facilities may be regarded as "public" or "private" infrastructure, depending on the country's preferences. Often, but not always, power and telecommunication facilities are regarded as "public" infrastructure. No view is expressed in the *Guide* as to where the line should be drawn in a particular country.

12. The notions of "public infrastructure" and "public services" are well established in the legal tradition of some countries, being sometimes governed by a specific body of law, which is typically referred to as "administrative law" (see chap. VII, "Other relevant areas of law", ___). However, in a number of other countries, apart from being subject to special regulations, public services are not regarded as being intrinsically distinct from other types of business. As used in the *Guide*, the expressions "public services" and "public service providers" should not be understood in a technical sense that may be attached to them under any particular legal system.

(b) "Concession", "project agreement" and related expressions

13. In many countries, public services constitute government monopolies or are otherwise subject to special regulation. Where that is the case, the provision of a public service by an entity other than a public authority typically requires an act of authorization by the appropriate governmental body. Different expressions are used to define such acts of authorization under national laws and in some legal systems various expressions may be used to denote different types of authorizations. Commonly used expressions include terms such as "concession", "franchise", "licence" or "lease" (*"affermage"*). In some legal systems, in particular those belonging to the civil law tradition, certain forms of infrastructure projects are referred to by well-defined legal concepts such as "public works concession" or "public service concession". As used in the *Guide*, the word "concession" is not to be understood in a technical sense that may be attached to it under any particular legal system or domestic law.

14. As used in the *Guide*, the term "project agreement" means an agreement between a public authority and the entity or entities selected by that public authority to carry out the project that sets forth the terms and conditions for the construction or modernization, operation and maintenance of the infrastructure. Other expressions that may be used in some legal systems

to refer to such an agreement, such as "concession agreement" or "concession contract", are not used in the *Guide*.

15. The *Guide* uses the word "concessionaire" to refer generally to an entity that carries out public infrastructure projects under a concession issued by the public authorities of the host country. The term "project company" is sometimes used in the *Guide* to refer specifically to an independent legal entity established for the purpose of carrying out a particular project.

(c) References to national authorities

16. As used in the *Guide*, the word "Government" encompasses the various public authorities of the host country entrusted with executive or policy-making functions, at the national, provincial or local level. The expression "public authorities" is used to refer, in particular, to entities of, or related to, the executive branch of the Government. The expression "legislature" is used specifically with reference to the organs that exercise legislative functions in the host country.

17. The expression "contracting authority" is generally used in the *Guide* to refer to the public authority of the host country that has the overall responsibility for the project and on behalf of which the project is awarded. Such authority may be national, provincial or local (see below, paras. 69 and 70).

18. The expression "regulatory agency" is used in the *Guide* to refer to the public authority that is entrusted with the power to issue and enforce rules and regulations governing the operation of the infrastructure. The regulatory agency may be established by statute with the specific purpose of regulating a particular infrastructure sector.

(d) "Build-operate-transfer" and related expressions

19. The various types of projects referred to in this *Guide* as privately financed infrastructure projects are sometimes divided into several categories, according to the type of private participation or the ownership of the relevant infrastructure, as indicated below:

(a) *Build-operate-transfer (BOT)*. An infrastructure project is said to be a BOT project when the contracting authority selects a concessionaire to finance and construct an infrastructure facility or system and gives the entity the right to operate it commercially for a certain period, at the end of which the facility is transferred to the contracting authority;

(b) *Build-transfer-operate (BTO)*. This expression is sometimes used to emphasize that the infrastructure facility becomes the property of the contracting authority immediately upon its completion, the concessionaire being awarded the right to operate the facility for a certain period;

(c) *Build-rent-operate-transfer (BROT)* or *"build-lease-operate-transfer" (BLOT)*. These are variations of BOT or BTO projects where, in addition to the obligations and other terms usual to BOT projects, the concessionaire rents the physical assets on which the facility is located for the duration of the agreement;

(d) *Build-own-operate-transfer (BOOT)*. These are projects in which a concessionaire is engaged for the financing, construction, operation and maintenance of a given infrastructure facility in exchange for the right to collect fees and other charges from its users. Under this arrangement the private entity owns the facility and its assets until it is transferred to the contracting authority;

(e) *Build-own-operate (BOO)*. This expression refers to projects where the concessionaire owns the facility permanently and is not under an obligation to transfer it back to the contracting authority.

20. Besides acronyms used to highlight the particular ownership regime, other acronyms may be used to emphasize one or more of the obligations of the concessionaire. In some projects, existing infrastructure facilities are turned over to private entities to be modernized or refurbished, operated and maintained, permanently or for a given period of time. Depending on whether the private sector will own such an infrastructure facility, those arrangements may be called either "refurbish-operate-transfer" (ROT) or "modernize-operate-transfer" (MOT), in the first case, or "refurbish-own-operate" (ROO) or "modernize-own-operate" (MOO), in the latter. The expression "design-build-finance-operate" (DBFO) is sometimes used to emphasize the concessionaire's additional responsibility for designing the facility and financing its construction.

B. Background information on privately financed infrastructure projects

21. In most of the countries that have recently built new infrastructure through private investment, privately financed infrastructure projects are an important tool in meeting national infrastructure needs. Essential elements of national policies include the level of competition sought for each infrastructure sector, the way in which the sector is structured and the mechanisms used to ensure adequate functioning of infrastructure markets. National policies to promote private investment in infrastructure are often accompanied by measures destined to introduce competition between public service providers or to prevent abuse of monopolistic conditions where competition is not feasible.

22. In devising programmes to promote private sector investment in the development and operation of public infrastructure, a number of countries have found it useful to review the assumptions under which public sector monopolies were established, including the historical circumstances and political conditions that had led to their creation, with a view to (a) identifying those activities which still maintain the characteristics of natural monopoly; and (b) assessing the feasibility and desirability of introducing competition in certain infrastructure sectors.

1. Private investment and infrastructure policy

23. The measures that may be required to implement a governmental policy to promote competition in various infrastructure sectors will depend essentially on the prevailing market structure. The main elements that characterize a particular market structure include barriers to the entry of competitors of an economic, legal, technical or other nature, the degree of vertical or horizontal integration, the number of companies operating in the market as well as the availability of substitute products or services.

(a) Competition policy and monopolies

24. The term monopoly in the strict sense refers to a market with only one supplier. However, pure monopoly and perfect competition mark two ends of a spectrum. Most markets for commodities or services are characterized by a degree of competition that lies between those two ends. Generally, monopolies can be classified as natural monopolies, legal monopolies and de facto monopolies; each of them may require different policy approaches:

(a) *Natural monopolies*. These are economic activities that allow a single provider to supply the whole market at a lower cost than two or more providers. This situation is typical for economic activities that entail large investment and high fixed costs, but decreasing costs of producing an additional unit of services (e.g. an additional cubic metre of water) to attend an increase of demand. Natural monopolies tend to exhibit large upfront fixed investment requirements that make it difficult for a new company, lacking comparable economies of scale, to enter the market and undercut the incumbent;

(b) *Legal monopolies*. Legal monopolies are established by law and may cover sectors or activities that are or are not natural monopolies. In the latter category, monopolies exist solely because competition is prohibited. The developments that had led many countries to the establishment of legal monopolies were often based on the consideration that national infrastructure needs, both in terms of quality and quantity, could not be adequately met by leaving infrastructure to the free market;

(c) *De facto monopolies*. These monopolies may not necessarily be the result of economic fundamentals or of legal provisions, but simply of the absence of competition, resulting, for example, from the integrated nature of the infrastructure company and its ability to control essential facilities to the exclusion of other suppliers.

25. Although monopolies are sometimes justified by legal, political or social grounds, they may produce negative economic effects. A service provider operating under monopolistic conditions is typically able to fix prices above those which would be charged in competitive conditions. The surplus profit that results from insufficient competition implies a transfer of wealth fromconsumers to producers. Monopolies have also been found to cause a net loss of welfare to the economy as a result of inflated prices generated by artificially low production; a reduced rate of innovation; and insufficient efforts to reduce production costs. Furthermore, in particular in infrastructure sectors, there may be secondary effects on other markets. (For example, lack of competition and efficiency in telecommunications has negative repercussions through increases in cost for the economy at large.)

26. Despite their negative economic effects, monopolies and other regulatory barriers to competition have sometimes been maintained in the absence of natural monopoly conditions. One of the reasons cited for retaining monopolies is that they may be used to foster certain policy objectives, such as ensuring the provision of services in certain regions or to certain categories of consumers at low prices or even below cost. Examples of services for which the price may not cover costs include lifeline telephone, water or power service, discounted transport for certain categories of travellers (e.g. school children or senior citizens), as well as other services for low-income or rural users. A monopolistic service provider is able to finance the provision of such services through internal "cross-subsidies" from other profitable services provided in other regions or to other categories of consumers.

27. Another reason sometimes cited for retaining legal monopolies in the absence of natural monopoly conditions is to make the sector more attractive to private investors. Private operators may insist on being granted exclusivity rights to provide a certain service so as to reduce the commercial risk of their investment. However, that objective has to be balanced against the interests of consumers and the economy as a whole. For those countries where the granting of exclusivity rights is found to be needed as an incentive to private investment, it may be advisable to consider restricting competition, though on a temporary basis only (see chap. I, "General legislative and institutional framework", paras. 20-22).

(b) Scope for competition in different sectors

28. Until recently, monopolistic conditions prevailed in most infrastructure sectors either because the sector was a natural monopoly or because regulatory barriers or other factors (e.g. vertically integrated structure of public service providers) prevented effective competition. However, rapid technological progress has broadened the potential scope for competition in infrastructure sectors, as discussed briefly below:

(a) *Telecommunication sector.* New wireless technology not only makes mobile telecommunication services possible, but it is also increasingly competing with fixed (wireline) services. Fibre optic networks, cable television networks, data transmission over power lines, global satellite systems, increasing computing power, improved data compression techniques, convergence between communications, broadcasting and data processing are further contributing to the breakdown of traditional monopolies and modes of service provision. As a result of these and other changes, telecommunication services have become competitive and countries are increasingly opening up the sector to free entry, while limiting access only to services that require the use of scarce public resources, such as radio frequency;

(b) *Energy sector.* In the energy sector, combined-cycle gas turbines and other technologies allowing for efficient power production on smaller scales and standardization in manufacturing of power generation equipment have led several countries to change the monopolistic and vertically integrated structure of domestic electricity markets. Increasing computing power and improved data-processing software make it easier to dispatch electricity across a grid and to organize power pools and other mechanisms to access the network and trade in electricity;

(c) *Transport sector.* Technology is in many cases also at the origin of changing patterns in the transport sector: the introduction of containers and other innovations, such as satellite communications, making it possible to track shipments across the globe, have had profound consequences on shipping, port management and rail and truck transport, while fostering the development of intermodal transport.

29. Technological changes such as these have prompted the legislatures in a number of countries to extend competition to infrastructure sectors by adopting legislation that abolishes monopolies and other barriers to entry, changes the way infrastructure sectors are organized and establishes a regulatory framework fostering effective competition. The extent to which this can be done depends on the sector, the size of the market and other factors.

2. Restructuring of infrastructure sectors

30. In many countries, private participation in infrastructure development has followed the introduction of measures to restructure infrastructure sectors. Legislative action typically begins with the abolition of rules that prohibit private participation in infrastructure and the removal of all other legal impediments to competition that cannot be justified by reasons of public interest. It should be noted, however, that the extent to which a particular sector may be opened to competition is a decision that is taken in the light of the country's overall economic policy. Some countries, in particular developing countries, might have a legitimate interest in promoting the development of certain sectors of local industry and might thus choose not to open certain infrastructure sectors to competition.

31. For monopolistic situations resulting from legal prohibitions rather than economic and technological fundamentals, the main legislative action needed to introduce competition is the removal of the existing legal barriers. This may need to be reinforced by rules of competition (such as the prohibition of collusion, cartels, predatory pricing or other unfair trading practices) and regulatory oversight (see chap. I, "General legislative and institutional framework", paras.

30-53). For a number of activities, however, effective competition may not be obtained through the mere removal of legislative barriers without legislative measures to restructure the sector concerned. In some countries, monopolies have been temporarily maintained only for the time needed to facilitate a gradual, more orderly and socially acceptable transition from a monopolistic to a competitive market structure.

(a) Unbundling of infrastructure services

32. In the experience of some countries it has been found that vertically or horizontally integrated infrastructure companies may be able to prevent effective competition. Integrated companies may try to extend their monopolistic powers in one market or market segment to other markets or market segments in order to extract monopoly rents in those activities as well. Therefore, some countries have found it necessary to separate the monopoly element (such as the grid in many networks) from competitive elements in given infrastructure sectors. By and large, infrastructure services tend to be competitive, whereas the underlying physical infrastructure often has monopolistic characteristics.

33. The separation of competitive activities from monopolistic ones may in turn require the unbundling of vertically or horizontally integrated activities. Vertical unbundling occurs when upstream activities are separated from downstream ones, for example, by separating production, transmission, distribution and supply activities in the power sector. The objective is typically to separate key network components or essential facilities from the competitive segments of the business. Horizontal unbundling occurs when one or more parallel activities of a monopolist public service provider are divided among separate companies, which may either compete directly with each other in the market (as is increasingly the case with power production) or retain a monopoly over a smaller territory (as may be the case with power distribution). Horizontal unbundling refers both to a single activity or segment being broken up (as in the power sector examples) and to substitutes being organized separately in one or more markets (as in the case of separation of cellular services from fixed-line telephony, for example).

34. However, the costs and benefits of such changes need to be considered carefully. Costs may include the costs associated with the change itself (e.g. transaction and transition costs, including the loss incurred by companies that lose benefits or protected positions as a result of the new scheme) and those resulting from the operation of the new scheme, in particular higher coordination costs resulting, for example, from more complicated network planning, technical standardization or regulation. Benefits, on the other hand, may include new investments, better or new services, more choice and lower economic costs.

(b) Recent experience in major infrastructure sectors

(i) Telecommunications

35. Unbundling has not been too common in the telecommunication sector. In some countries, long-distance and international services were separated from local services; competition was introduced in the former, while the latter remained largely monopolistic. In some of those countries that trend is now being reversed, with local telephone companies being allowed to provide long-distance services and long-distance companies being allowed to provide local services, all in a competitive context. Mandatory open access rules are common in the telecommunication sector of those countries where the historical public service provider offers services in competition with other providers while controlling essential parts of the network.

(ii) Electricity

36. Electricity laws recently enacted in various countries call for the unbundling of the power sector by separating generation, transmission and distribution. In some cases, supply is further distinguished from distribution in order to leave only the monopolistic activity (i.e. the transport of electricity for public use over wires) under a monopoly. In those countries, the transmission and distribution companies do not buy or sell electricity but only transport it against a regulated fee. Trade in electricity occurs between producers or brokers on the one hand and users on the other. In some of the countries concerned, competition is limited to large users only or is being phased in gradually.

37. Where countries have opted for the introduction of competition in the power and gas sectors, new legislation has organized the new market structure, stipulating to what extent the market had to be unbundled (sometimes including the number of public service providers to be created out of the incumbent monopoly), or removed barriers to new entry. The same energy laws have also established specific competition rules, whether structural (e.g. prohibition of cross-ownership between companies in different segments of the market, such as production, transmission and distribution, or gas and electricity sale and distribution) or behavioural (e.g. third-party access rules, prohibition of alliances or other collusive arrangements). New institutions and regulatory mechanisms, such as power pools, dispatch mechanisms or energy regulatory agencies, have been established to make the new energy markets work. Finally, other aspects of energy law and policy have had to be amended in conjunction with these changes, including the rules governing the markets for oil, gas, coal and other energy sources.

(iii) Water and sanitation

38. The most common market structure reform introduced in the water and sanitation sector is horizontal unbundling. Some countries have created several water utilities where a single one existed before. This is particularly common in, but is not limited to, countries with separate networks that are not or only slightly interconnected. In practice, it has been found that horizontal unbundling facilitates comparison of the performance of service providers.

39. Some countries have invited private investors to provide bulk water to a utility or to build and operate water treatment or desalination plants, for example. In such vertical unbundling, the private services (and the discrete investments they require) are usually rendered under contract to a utility and do not fundamentally modify the monopolistic nature of the market structure: the plants usually do not compete with each other and are usually not allowed to bypass the utility to supply customers. A number of countries have introduced competition in bulk water

supply and transportation; in some cases, there are active water markets. Elsewhere, competition is limited to expensive bottled or trucked water and private wells.

(iv) Transport

40. In the restructuring measures taken in various countries, a distinction is made between transport infrastructure and transport services. The former may often have natural monopoly characteristics, whereas services are generally competitive. Competition in transport services should be considered not only within a single mode but also across modes, since trains, trucks, buses, airlines and ships tend to compete for passengers and freight.

41. With respect to railways, some countries have opted for a separation between the ownership and operation of infrastructure (e.g. tracks, signalling systems and train stations) on the one hand and of rail transport services (e.g. passenger and freight) on the other. In such schemes, the law does not allow the track operator also to operate transport services, which are operated by other companies often in competition with each other. Other countries have let integrated companies operate infrastructure as well as services, but have enforced third-party access rights to the infrastructure, sometimes called "trackage rights". In those cases, transport companies, whether another rail line or a transport service company, have right of access to the track on certain terms and the company controlling the track has the obligation to grant such access.

42. In many countries, ports were until recently managed as public sector monopolies. When opening the sector to private participation, legislators have considered different models. Under the landlord-port system, the port authority is responsible for the infrastructure as well as overall coordination of port activities; it does not, however, provide services to ships or merchandise. In service ports, the same entity is responsible for infrastructure and services. Competition between service providers (e.g. tugboats, stevedoring and warehousing) may be easier to establish and maintain under the landlord system.

43. Legislation governing airports may also require changes, whether to allow private investment or competition between or within airports. Links between airport operation and air traffic control may also need to be considered carefully. Within airports, many countries have introduced competition in handling services, catering and other services to planes, as well as in passenger services such as retail shops, restaurants, parking and the like. In some countries, the construction and operation of a new terminal at an existing airport has been entrusted to a new operator, thus creating competition between terminals. In others, new airports have been built on a BOT basis and existing ones transferred to private ownership.

(c) Transitional measures

44. The transition from monopoly to market needs to be carefully managed. Political, social or other factors have led some countries to pursue a gradual or phased approach to implementation. As technology and other outside forces are constantly changing, some countries have adopted sector reforms that could be accelerated or adjusted to take those changing circumstances into account.

45. Some countries have felt that competition should not be introduced at once. In such cases, legislation has provided for temporary exclusivity rights, limitation in the number of public service providers or other restrictions on competition. Those measures are designed to give the incumbent adequate time to prepare for competition and to adjust prices, while providing the public service provider adequate incentives for investment and service expansion. Other countries have included provisions calling for the periodic revision (at the

time of price reviews, for example) of such restrictions with a view to ascertaining whether the conditions that justified them at the time when they were introduced still prevail.

46. Another transitional measure, at least in some countries with government-owned public service providers, has been the restructuring or privatization of the incumbent service provider. In most countries where government-owned providers of public services have been privatized, liberalization has by and large either accompanied or preceded privatization. Some countries have proceeded otherwise and have privatized companies with significant exclusivity rights, often to increase privatization proceeds. They have, however, found it difficult and sometimes very expensive to remove, restrict or shorten at a later stage the exclusive rights or monopolies protecting private or privatized public service providers.

3. Forms of private sector participation in infrastructure projects

47. Private sector participation in infrastructure projects may be devised in a variety of different forms, ranging from publicly owned and operated infrastructure to fully privatized projects. The appropriateness of a particular variant for a given type of infrastructure is a matter to be considered by the Government in view of the national needs for infrastructure development and an assessment of the most efficient ways in which particular types of infrastructure facilities may be developed and operated. In a particular sector more than one option may be used.

(a) Public ownership and public operation

48. In cases where public ownership and control is desired, direct private financing as well as infrastructure operation under commercial principles may be achieved by establishing a separate legal entity controlled by the Government to own and operate the project. Such an entity may be managed as an independent private commercial enterprise that is subject to the same rules and business principles that apply to private companies. Some countries have a well established tradition in operating infrastructure facilities through these types of company. Opening the capital of such companies to private investment or making use of such a company's ability to issue bonds or other securities may create an opportunity for attracting private investment in infrastructure.

49. Another form of involving private participation in publicly owned and operated infrastructure may be the negotiation of "service contracts" whereby the public operator contracts out specific operation and maintenance activities to the private sector. The Government may also entrust a broad range of operation and maintenance activities to a private entity acting on behalf of the contracting authority. Under such an arrangement, which is sometimes referred to as a "management contract", the private operator's compensation may be linked to its performance, often through a profit-sharing mechanism, although compensation on the basis of a fixed fee may also be used, in particular where the parties find it difficult to establish mutually acceptable mechanisms to assess the operator's performance.

(b) Public ownership and private operation

50. Alternatively, the whole operation of public infrastructure facilities may be transferred to private entities. One possibility is to give the private entity, usually for a certain period, the right to use a given facility, to supply the relevant services and to collect the revenue generated by that activity. Such a facility may already be in existence or may have been specially built by the private entity concerned. This combination of public ownership and private operation has the essential features of arrangements that in some legal systems may be referred to as "public works concessions" or "public service concessions".

51. Another form of private participation in infrastructure is where a private entity is selected by the contracting authority to operate a facility that has been built by or on behalf of the Government, or whose construction has been financed with public funds. Under such an arrangement, the operator assumes the obligation to operate and maintain the infrastructure and is granted the right to charge for the services it provides. In such a case, the operator assumes the obligation to pay to the contracting authority a portion of the revenue generated by the infrastructure that is used by the contracting authority to amortize the construction cost. Such arrangements are referred to in some legal systems as "lease" or "*affermage*".

(c) Private ownership and operation

52. Under the third approach, the private entity not only operates the facility, but also owns the assets related to it. Here, too, there may be substantial differences in the treatment of those projects under domestic laws, for instance as to whether the contracting authority retains the right to reclaim title to the facility or to assume responsibility for its operation (see also chap. IV, "Construction and operation of infrastructure", paras. 23-29).

53. Where the facility is operated pursuant to a governmental licence, private ownership of physical assets (e.g. a telecommunication network) is often separable from the licence to provide the service to the public (e.g. long-distance telephone services), in that the licence can be withdrawn by the competent public authority under certain circumstances. Thus, private ownership of the facility may not necessarily entail an indefinite right to provide the service.

4. Financing structures and sources of finance for infrastructure

(a) Notion of project finance

54. Large-scale projects involving the construction of new infrastructure facilities are often carried out by new corporate entities specially established for that purpose by the project promoters. Such a new entity, often called a "project company", becomes the vehicle for raising funds for the project. Because the project company lacks an established credit or an established balance sheet on which the lenders can rely, the preferred financing modality for the development of new infrastructure is called "project finance". In a project finance transaction, credit will be made available to the extent that the lenders can be satisfied to look primarily to the project's cash flow and earnings as the source of funds for the repayment of loans taken out by the project company. Other guarantees either are absent or cover only certain limited risks. To that end, the project's assets and revenue, and the rights and obligations relating to the project, are independently estimated and are strictly separated from the assets of the project company's shareholders.

55. Project finance is also said to be "non-recourse" financing owing to the absence of recourse to the project company's shareholders. In practice, however, lenders are seldom ready to commit the large amounts needed for infrastructure projects solely on the basis of a project's expected cash flow or assets. The lenders may reduce their exposure by incorporating into the project documents a number of back-up or secondary security arrangements and other means of credit support provided by the project company's shareholders, the Government, purchasers or other interested third parties. This modality is commonly called "limited recourse" financing.

(b) Financing sources for infrastructure projects

56. Alternatives to traditional public financing are playing an increasing role in the development of infrastructure. In recent years, new infrastructure investment in various

countries has included projects with exclusively or predominantly private funding sources. The two main types of fund are debt finance, usually in the form of loans obtained on commercial markets, and equity investment. However, financing sources are not limited to those. Public and private investment have often been combined in arrangements sometimes called "public-private partnerships".

(i) Equity capital

57. The first type of capital for infrastructure projects is provided in the form of equity investment. Equity capital is obtained in the first place from the project promoters or other individual investors interested in taking stock in the concessionaire. However, such equity capital normally represents only a portion of the total cost of an infrastructure project. In order to obtain commercial loans or to have access to other sources of funds to meet the capital requirements of the project, the project promoters and other individual investors have to offer priority payment to the lenders and other capital providers, thus accepting that their own investment will only be paid after payment of those other capital providers. Therefore, the project promoters typically assume the highest financial risk. At the same time, they will hold the largest share in the project's profit once the initial investment is paid. Substantial equity investment by the project promoters is typically welcomed by the lenders and the Government, as it helps reduce the burden of debt service on the concessionaire's cash flow and serves as an assurance of those companies' commitment to the project.

(ii) Commercial loans

58. Debt capital often represents the main source of funding for infrastructure projects. It is obtained on the financial market primarily by means of loans extended to the project company by national or foreign commercial banks, typically using funds that originate from short- to medium-term deposits remunerated by those banks at floating interest rates. Consequently, loans extended by commercial banks are often subject to floating interest rates and normally have a maturity term shorter than the project period. However, where feasible and economic, given financial market conditions, banks may prefer to raise and lend medium- to long-term funds at fixed rates, so as to avoid exposing themselves and the concessionaire over a long period to interest rate fluctuations, while also reducing the need for hedging operations. Commercial loans are usually provided by lenders on condition that their payment takes precedence over the payment of any other of the borrower's liabilities. Therefore, commercial loans are said to be "unsubordinated" or "senior" loans.

(iii) "Subordinated" debt

59. The third type of fund typically used in these projects are "subordinated" loans, sometimes also called "mezzanine" capital. Such loans rank higher than equity capital in order of payment, but are subordinate to senior loans. This subordination may be general (i.e. ranking generally lower than any senior debt) or specific, in which case the loan agreements specifically identify the type of debt to which it is subordinated. Subordinated loans are often provided at fixed rates, usually higher than those of senior debt. As an additional tool to attract such capital, or sometimes as an alternative to higher interest rates, providers of subordinated loans may be offered the prospect of direct participation in capital gains, by means of the issue of preferred or convertible shares or debentures, sometimes providing an option to subscribe for shares of the concessionaire at preferential prices.

(iv) Institutional investors

60. In addition to subordinated loans provided by the project promoters or by public financial institutions, subordinated debt may be obtained from financing companies, investment funds, insurance companies, collective investment schemes (e.g. mutual funds), pension funds and other so-called "institutional investors". These institutions normally have large sums available for long-term investment and may represent an important source of additional capital for infrastructure projects. Their main reasons for accepting the risk of providing capital to infrastructure projects are the prospect of remuneration and interest in diversifying investment.

(v) Capital market funding

61. As more experience is gained with privately financed infrastructure projects, increased use is being made of capital market funding. Funds may be raised by the placement of preferred shares, bonds and other negotiable instruments on a recognized stock exchange. Typically, the public offer of negotiable instruments requires regulatory approval and compliance with requirements of the relevant jurisdiction, such as requirements concerning the information to be provided in the prospectus of issuance and, in some jurisdictions, the need for prior registration. Bonds and other negotiable instruments may have no other security than the general credit of the issuer or may be secured by a mortgage or other lien on specific property.

62. The possibility of gaining access to capital markets is usually greater for existing public utilities with an established commercial record than for companies specially established to build and operate a new infrastructure and lacking the required credit rating. Indeed, a number of stock exchanges require that the issuing company have some established record over a certain minimum period before being permitted to issue negotiable instruments.

(vi) Financing by Islamic financial institutions

63. One additional group of potential capital providers are Islamic financial institutions. Those institutions operate under rules and practices derived from the Islamic legal tradition. One of the most prominent features of banking activities under their rules is the absence of interest payments or strict limits to the right to charge interest and consequently the establishment of other forms of consideration for the borrowed money, such as profit-sharing or direct participation of the financial institutions in the results of the transactions of their clients. As a consequence of their operating methods, Islamic financial institutions may be more inclined than other commercial banks to consider direct or indirect equity participation in a project.

(vii) Financing by international financial institutions

64. International financial institutions may also play a significant role as providers of loans, guarantees or equity to privately financed infrastructure projects. A number of projects have been co-financed by the World Bank, the International Finance Corporation or by regional development banks.

65. International financial institutions may also play an instrumental role in the formation of "syndications" for the provision of loans to the project. Some of those institutions have special loan programmes under which they become the sole "lender of record" to a project, acting on its own behalf and on behalf of participating banks and assuming responsibility for processing disbursements by participants and for subsequent collection and distribution of loan payments received from the borrower, either pursuant to specific agreements or based on other rights that are available under their status of preferred creditor. Some international financial institutions

may also provide equity or mezzanine capital, by investing in capital market funds specialized in securities issued by infrastructure operators. Lastly, international financial institutions may provide guarantees against a variety of political risks, which may facilitate the project company's task of raising funds in the international financial market (see chap. II, "Project risks and government support", paras. 61-71).

(viii) Support by export credit and investment promotion agencies

66. Export credit and investment promotion agencies may provide support to the project in the form of loans, guarantees or a combination of both. The participation of export credit and investment promotion agencies may provide a number of advantages, such as lower interest rates than those applied by commercial banks and longer-term loans, sometimes at a fixed interest rate (see chap. II, "Project risks and government support", paras. 72-74).

(ix) Combined public and private finance

67. In addition to loans and guarantees extended by commercial banks and national or multilateral public financial institutions, in a number of cases public funds have been combined with private capital for financing new projects. Such public funds may originate from government income or sovereign borrowing. They may be combined with private funds as initial investment or as long-term payments, or may take the form of governmental grants or guarantees. Infrastructure projects may be co-sponsored by the Government through equity participation in the concessionaire, thus reducing the amount of equity and debt capital needed from private sources (see chap. II, "Project risks and government support", paras. 40 and 41).

5. Main parties involved in implementing infrastructure projects

68. The parties to a privately financed infrastructure project may vary greatly, depending on the infrastructure sector, the modality of private sector participation and the arrangements used for financing the project. The following paragraphs identify the main parties in the implementation of a typical privately financed infrastructure project involving the construction of a new infrastructure facility and carried out under the "project finance" modality.

(a) The contracting authority and other public authorities

69. The execution of a privately financed infrastructure project frequently involves a number of public authorities in the host country at the national, provincial or local level. The contracting authority is the main body responsible for the project within the Government. Furthermore, the execution of the project may necessitate the active participation (e.g. for the issuance of licences or permits) of other public authorities in addition to the contracting authority, at the same or at a different level of Government. Those authorities play a crucial role in the execution of privately financed infrastructure projects.

70. The contracting authority or another public authority normally identifies the project pursuant to its own policies for infrastructure development in the sector concerned and determines the type of private sector participation that would allow the most efficient operation of the infrastructure facility. Thereafter, the contracting authority conducts the process that leads to the selection of the concessionaire. Furthermore, throughout the life of the project, the Government may need to provide various forms of support—legislative, administrative, regulatory and sometimes financial—so as to ensure that the facility is successfully built and adequately operated. Finally, in some projects the Government may become the ultimate owner of the facility.

(b) The project company and the project promoters

71. Privately financed infrastructure projects are usually carried out by a joint venture of companies including construction and engineering companies and suppliers of heavy equipment interested in becoming the main contractors or suppliers of the project. The companies that participate in such a joint venture are referred to in the *Guide* as the "promoters" of the project. Those companies will be intensively involved in the development of the project during its initial phase and their ability to cooperate with each other and to engage other reliable partners will be essential for timely and successful completion of the work. Furthermore, the participation of a company with experience in operating the type of facility being built is an important factor to ensure the long-term viability of the project. Where an independent legal entity is established by the project promoters, other equity investors not otherwise engaged in the project (usually institutional investors, investment banks, bilateral or multilateral lending institutions, sometimes also the Government or a government-owned corporation) may also participate. The participation of local investors, where the project company is required to be established under the laws of the host country (see chap. IV, "Construction and operation of infrastructure", paras. 12-18), is sometimes encouraged by the Government.

(c) Lenders

72. The risks to which the lenders are exposed in project finance, be it non-recourse or limited recourse, are considerably higher than in conventional transactions. This is even more the case where the security value of the physical assets involved (e.g. a road, bridge or tunnel) is difficult to realize, given the lack of a "market" where such assets could easily be sold, or act as obstacles to recovery or repossession. This circumstance affects not only the terms under which the loans are provided (e.g. the usually higher cost of project finance and extensive conditions to funding), but also, as a practical matter, the availability of funds.

73. Owing to the magnitude of the investment required for a privately financed infrastructure project, loans are often organized in the form of "syndicated" loans with one or more banks taking the lead role in negotiating the finance documents on behalf of the other participating financial institutions, mainly commercial banks. Commercial banks that specialize in lending for certain industries are typically not ready to assume risks with which they are not familiar (for a discussion of project risks and risk allocation, see chap. II, "Project risks and government support", paras. 8-29). For example, long-term lenders may not be interested in providing short-term loans to finance infrastructure construction. Therefore, in large-scale projects, different lenders are often involved at different phases of the project. With a view to avoiding disputes that might arise from conflicting actions taken by individual lenders or disputes between lenders over payment of their loans, lenders extending funds to large projects sometimes do so under a common loan agreement. Where various credit facilities are provided under separate loan agreements, the lenders will typically negotiate a so-called "inter-creditor agreement". An inter-creditor agreement usually contains provisions dealing with matters such as provisions for disbursement of payments, pro rata or in a certain order of priority; conditions for declaring events of default and accelerating the maturity of credits; and coordination of foreclosure on security provided by the project company.

(d) International financial institutions and export credit and investment promotion agencies

74. International financial institutions and export credit and investment promotion agencies will have concerns of generally the same order as other lenders to the project. In addition to

this, they will be particularly interested in ensuring that the project execution and its operation are not in conflict with particular policy objectives of those institutions and agencies. Increasing emphasis is being given by international financial institutions to the environmental impact of infrastructure projects and their long-term sustainability. The methods and procedures applied to select the concessionaire will also be carefully considered by international financial institutions providing loans to the project. Many global and regional financial institutions and national development funding agencies have established guidelines or other requirements governing procurement with funds provided by them, which is typically reflected in their standard loan agreements (see also chap. III, "Selection of the concessionaire", para. 18).

(e) Insurers

75. Typically, an infrastructure project will involve casualty insurance covering its plant and equipment, third-party liability insurance and worker's compensation insurance. Other possible types of insurance include insurance for business interruption, interruption in cash flows and cost overrun (see chap. IV, "Construction and operation of infrastructure", paras. 119 and 120). Those types of insurance are usually available on the commercial insurance markets, although the availability of commercial insurance may be limited for certain extraordinary events outside the control of the parties (e.g. war, riots, vandalism, earthquakes or hurricanes). The private insurance market is playing an increasing role in coverage against certain types of political risk, such as contract repudiation, failure by a public authority to perform its contractual obligations or unfair calls for independent guarantees. In some countries, insurance underwriters structure comprehensive insurance packages aimed at avoiding certain risks being left uncovered owing to gaps between individual insurance policies. In addition to private insurance, guarantees against political risks may be provided by international financial institutions, such as the World Bank, the Multilateral Investment Guarantee Agency and the International Finance Corporation, by regional development banks or by export credit and investment promotion agencies (see chap. II, "Project risks and government support", paras. 61-74).

(f) Independent experts and advisers

76. Independent experts and advisers play an important role at various stages of privately financed infrastructure projects. Experienced companies typically supplement their own technical expertise by retaining the services of outside experts and advisers, such as financial experts, international legal counsel or consulting engineers. Merchant and investment banks often act as advisers to project promoters in arranging the finance and in formulating the project to be implemented, an activity that, while essential to project finance, is quite distinct from the financing itself. Independent experts may advise the lenders to the project, for example, on the assessment of project risks in a specific host country. They may also assist public authorities in devising sector-specific strategies for infrastructure development and in formulating an adequate legal and regulatory framework. Furthermore, independent experts and advisers may assist the contracting authority in the preparation of feasibility and other preliminary studies, in the formulation of requests for proposals or standard contractual terms and specifications, in the evaluation and comparison of proposals or in the negotiation of the project agreement.

77. In addition to private entities, a number of intergovernmental organizations (e.g. UNIDO and the regional commissions of the Economic and Social Council) and international financial institutions (e.g. the World Bank and the regional development banks) have special programmes whereby they may either provide this type of technical assistance directly to the Government or assist the latter in identifying qualified advisers.

Notes

[1] UNIDO publication, Sales No. UNIDO.95.6.E, hereafter referred to as the *UNIDO BOT Guidelines*.